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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/684,012

10/10/2003

Brian T. Lewis

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3236

8791

7590

08/09/2006

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EXAMINER

THAI, TUAN V

ART UNIT

PAPER NUMBER

2186

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,012

Applicant(s)

LEWIS, BRIAN T.

Examiner

Tuan V. Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 37-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Part III DETAILED ACTION

Specification

1. This office action responsive to communication filed 03/11/2004. Claims 1-36 are presented for examination. Claims 37-44 are subjected to the restriction requirement, and being withdrawn from further consideration.

2. Applicant is reminded of the duty to fully disclose information under 37 CFR 1.56.

NOTIFICATION OF OBJECTION AND/OR REJECTIONS

Election of Species/Restriction

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 1-36 drawn to an article of manufacture and method for making determination as to whether to modify the size of shared storage classified under class 711 subclass 130.

Group II. Claims 37-44, drawn specifically to an apparatus having a common shared memory area including a heap for store live objects, a compiled code cache and a controller for dynamically allocate data between the heap and compiled code cache classified in class 711 subclass 170.

The inventions are distinct, each from the other for the

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following reasons:

The invention of groups I and II are related as combination/subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the invention of group I has separate utility such as method for modifying a the size of the shared storage based on the determination result, and is not limited for use with the allocation apparatus of group II. Similarly, the apparatus of group II can be used as dynamic data allocation in multiple processing network system, and is not restricted for use with the method for making determination as to whether to modify the size of shared storage of group I. See M.P.E.P. § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and recognized divergent subject matter, and because the search required for one group is not coextensive with the search required for the other groups, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Shireen Bacon (Reg. 40,494) on August 04, 2006; a provisional election was made without traverse to prosecute the invention of group I, claims 1-36. Claims 37-44 are therefore withdrawn from further

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consideration by the Examiner.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-36 are rejected under 35 U.S.C. § 102(e) as being

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anticipated by Traversal et al. (2003/0200392); hereinafter Traversal.

As per claim 1, Traversal discloses the invention as claimed including a method comprises making a first determination to indicate whether the size of a compiled code cache should be modified (e.g. see column 29, lines 33 et seq.); making a second determination to indicate whether the size of a heap should be modified (e.g. see column 8, lines 23 et seq.); and modifying a shared storage region based on the first determination and the second determination (e.g. see abstract, column 8, lines 33 et seq.).

As per claims 2 and 3, Traversal discloses increasing/decreasing the size of the shared storage region when the size of the compiled code cache increased/decreased and the size of the heap increased/decreased since both the heap storage and cache storage memory of Traversal are dynamically adjustable (e.g. see column 8, lines 32 et seq., column 29, lines 33 et seq.).

As per claim 4, the further limitation of if the second determination indicates that the size of the heap should be increased, modifying allocation of the shared storage region to increase the size of the heap is taught by Traversal since Traversal clearly discloses that a heap is allocated for storing data in **some variable amount** that won't be known until program

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is running (e.g. see column 8, lines 21 et seq.).

As per claims 5, 7-10 and 12-13; Traversal discloses the limitation as being claimed; for example, Traversal clearly teach both heap and cache storage of Traversal are adjustable for dynamically allocation of the shared storage, and since heap is portioned into cache blocks (cache lines, segments) (e.g. see column 8, lines 41 et seq.), the rule of proportion and inversed proportion can be applied herein; for example, to increase the size of the shared storage, both heap size and cache size are increase; vice versa is true for decreasing the size of shared storage. On the other hand, with the rule of inverse proportion, for the predetermined size of shared storage comprising both heap and cache storage, when increasing the size either heap or cache storage, the other must be decreased to maintain the predetermined size of the shared storage; by this rationale, the claims are rejected.

As per claims 6 and 11; Traversal discloses modifying allocation of the shared storage region to increase the size of the heap/cache if he second determination indicates that the size of the heap/cache should be increased; and a growth need for the heap/cache has existed for at least a predetermined time interval; since a heap is reserved for data that is created at runtime or when the program is executed, depending on different system requirement and/or heap management method (e.g. see

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column 8, lines 21-45).

As per claim 14, Traversal discloses a code increase indicator (cache line size; CachLineS) (e.g. see column 32, lines 51 et seq.) to indicate whether the amount of compiled code in the compiled code cache has increased during execution of the program (also see Length of Cache line indicator (Length), column 31, lines 45 et seq.);

As per claim 15, Traversal discloses an eviction rate indicator to indicate a rate at which code has been evicted from the compiled code cache during execution of the program (e.g. see column 30, lines 60 et seq.).

As per claim 16, Traversal discloses a compilation rate indicator to indicate a rate at which code has been compiled by a just-in-time compiler during execution of the program (e.g. see column 15, lines 5 et seq.).

As per claim 17, Traversal discloses a garbage collection rate indicator to indicate a rate at which unneeded information has been discarded from the heap during execution of the program (e.g. see column 33, lines 36 et seq.).

As per claim 18, an object increase indicator to indicate whether live code remaining in the heap after garbage collection has increased during execution of the program (e.g. see column 23, lines 59 et seq.).

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Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 19-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traversal et al. (2003/0200392); hereinafter Traversal.

As per claims 19-36; they encompass the same scope of invention as to that of claims 1-18 respectively; however, Traversal does not particularly disclose a computer-readable medium of instructions to be implemented on a computer as being claimed 19-36. However, one of ordinary skill in the art would have recognized that computer readable medium (i.e., floppy, cd-rom, etc.) carrying computer-executable instructions for implementing a method is generally well-known in the art, because it would facilitate the transporting and installing of the method on other systems. For example, a copy of the Microsoft Windows operating system can be found on a CD-ROM from which Windows can be installed onto other systems, which is a lot easier than

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running a long cable or hand typing the software onto another system. The examiner takes Official Notice of this teaching. Therefore, it would have been obvious to put Traversal's program on a computer readable medium, because it would facilitate the transporting, installing and implementing of Traversal's program on other systems.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan V. Thai whose telephone number is (571)-272-41287. The examiner can normally be reached from 6:30 A.M. to 4:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mathew M. Kim can be reached on (571)-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through

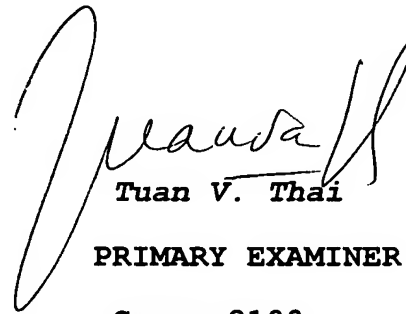
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TVT/July 27, 2005



Tuan V. Thai
PRIMARY EXAMINER
Group 2100